

GRAIN

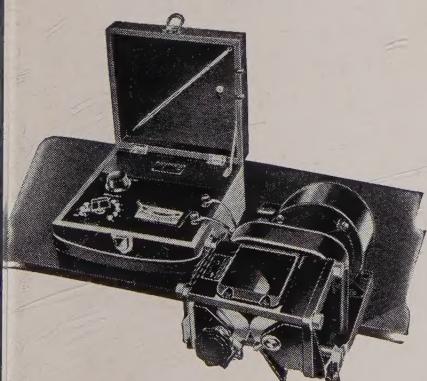
OCTOBER

1939

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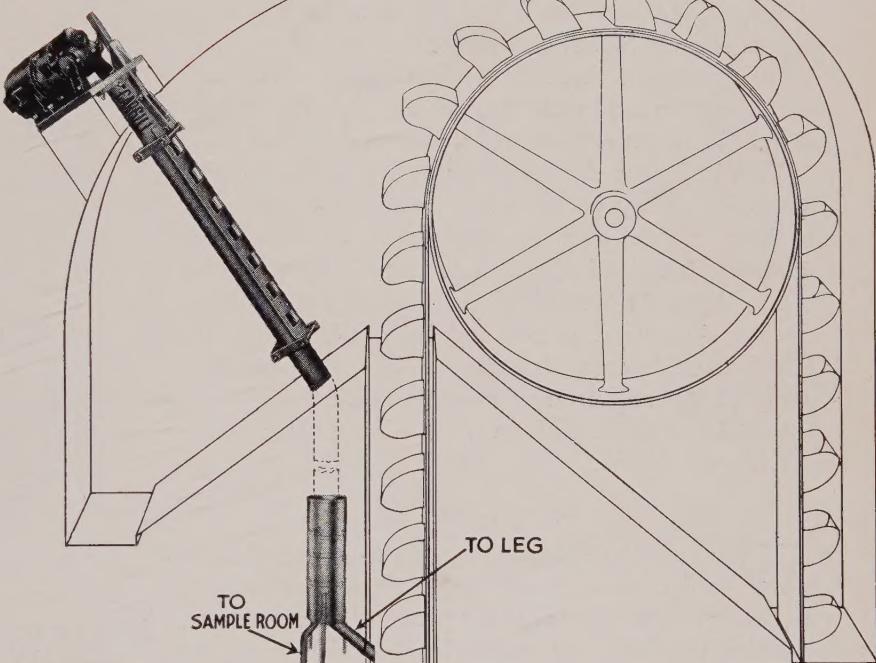


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11. Brings sample by gravity to any part of elevator or office as desired.
12. Takes the guesswork out of loading boats or cars.

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Chicago, Illinois

OUT TO SEA IN A GRAIN SHIP



LIIGHT up your pipe and dream of a leisurely journey from "somewhere" in Australia to London, England. We are going to take you along with us on an Australian sailing ship in the annual grain race to London.

Such a trip takes from 90 to 200 days, with stops at Spencer Gulf, New Zealand, Cape Horn, Trinidad and often little-known Islands in both the Pacific and the Atlantic. In fact, it is not uncommon for these ships to anchor awhile within sight of land,—for their purpose is to reach London after harvest time is past and the higher grain prices have been reached. In other words, these Australian grain vessels are veritable floating granaries, saving the farmers in distant lands the necessity of facing storage problems.

Windjammers do not operate out of good-sized sea ports. They gather wheat from small unknown harbors which own neither grain elevators nor wharves. The loading process takes all the way from a month to six weeks, as these sailing ships must anchor a mile out at sea and bring their cargo on board from barges. Imagine, if you can, the soft sway of the ocean on a romantic tropical night,—then take another puff on your Meerschaum while we journey further.

Why Sails?

WHY is the Australian grain fleet one of sails rather than steam? The answer is simple. Economy. Grain ports are not profitable for steamers, because the long wait while loading brings up the operating costs to such an extent that a reasonable profit is well-nigh impossible. Too, grain is cheapest at harvest time and were the farmer to ship via steamship, he would realize little from his crop because the ship's cargo would reach London faster and, consequently, before the upturn in prices. Thus, if a better price is to be obtained, he must store his grain for several months, and at an added cost. But why do this when Windjammers offer the simplest and cheapest solution?

Aside from the grain angle but most interesting, too, is the fact that these sailing vessels have little or no payroll to meet. Scandinavian countries demand that seamen wishing to prepare for masters' and mates' examinations must have at least two years' training on a sailing ship. Very often, therefore, as

much as \$250.00 is paid for the privilege of sailing on these boats. Sounds like a mighty profitable venture, doesn't it? But

A Dying Industry, Nevertheless

WE have given you reasons why the Australian grain fleet has survived through the years. However, it isn't because these grain ships undercut steamer freight rates that they survive. To be sure, they quote lower freight rates, but there is not enough difference to turn the tide in their favor. Furthermore, cargo shipped on a Windjammer calls for higher insurance rates and this, of course, cuts down the



savings affected between carriage by sail and carriage by steam.

To further substantiate the theory that the future of the Windjammers is doubtful, we look back eleven years (1928) and find at that time there were twenty-five ships in the fleet. This year but thirteen joined the grain race. Each year ships drop out but as the old fleet vanishes few new ones are built to take the place of those that have gone.

In the old days it was possible to load cargoes of lumber in Sweden for the journey back to Australia, but the lumber trade ceased completely several years ago and now ships are forced to sail out in ballast. And since the return from the grain trade is so low it is not economic to build new vessels to replace those that disappear, particularly without a cargo for the return trip. So it would seem that carriage under sail is indeed a dying industry,—and one that will go down in history as one of great fascination and romance.

Editorial

BALANCE

BALANCE, that evasive little scamp of a word, is one of our most difficult and painstaking thought problems. Applied to the fine art of weighing, the utmost in balance is achieved under glass where even one's breath cannot alter the determination. As applied to the handling equipment of a grain or processing plant, balance means greatest flexibility of operation within the structural limitations of the premises. The operation of individual machines presents another sphere where balance is an important factor.

But balance is also a vital element among mortals. Balance of personnel for greatest harmony — and each worker well balanced within himself, balance of relationships throughout the plant and with the head office, balance in attitudes toward and contacts with other grain and processing institutions, balance in co-operation between chapters of active Supers, — all are important, all are fundamental in "reading the beam" whether it be individual or group.

Association workers, association conventions and programs, not to mention the all-important speakers are all guided by a balancing influence if they are successful. Without balance each would become warped and one-sided. (Even an association's treasury needs a great deal of balance.)

No superior example of potential balancing, however, has come to our attention than the inter-plant horse-shoe pitching contest sponsored last spring among members and non-members of the Kansas City Chapter of the SGES and again to be repeated this fall. Not only that, but the instigators have volunteered putting up the prize money for contests every place the Society has an active or potential chapter. Such balance, designed to even off the hills and valleys, seems to us to be the perfect "reading" on the scale of human foresight.

GRAIN

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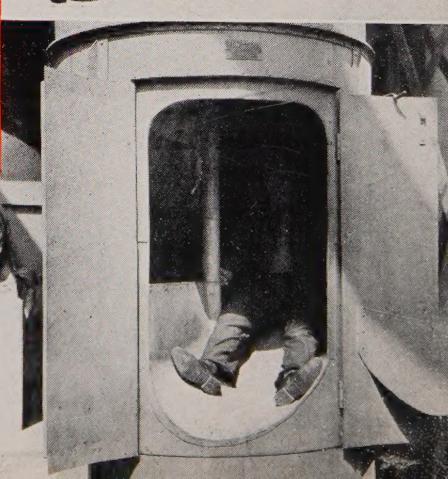
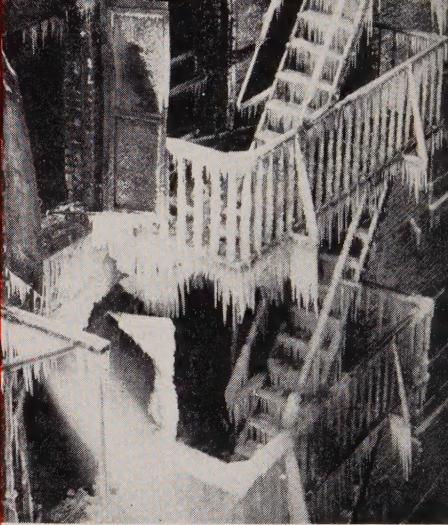
Center: Municipal Elevator,
Houston, Texas.

Bottom: Santa Fe
Elevator, Kansas City

6000 in use



607-B



Static Electricity IN DUST COLLECTING SYSTEMS

By A. H. NUCKOLLS
Chemical Engineer, Underwriters' Laboratories, Inc.

THE origin of a number of fires which have occurred from time to time in blower systems has never been definitely determined. In many such cases evidence has indicated that no flame or other ordinary source of ignition was present and that the materials involved were not subject to spontaneous ignition. The question has therefore been raised as to whether charges of static electricity of magnitude sufficient to cause ignition might be generated in blower systems under common operating conditions. The general interest in this problem on the part of the National Fire Protection Association Committee on Manufacturing Hazards, as expressed by Chairman Richards and various others, indicated the desirability of an investigation on this subject. Underwriters' Laboratories, Inc., accordingly undertook an investigation to ascertain the extent of the generation of static charges using ducts of various material arranged to simulate actual conditions found in blower systems.

Sheet metal, Transite and wooden ducts of various lengths and sizes, some lined and some unlined, were employed in these experiments. The blower used was of the centrifugal type, driven by a twenty-horse power electric motor and having a capacity of 80,000 cubic feet per hour at a pressure of one pound per square inch.

Three groups of tests were conducted: Air Tests, using relatively dust-free air; Dust and Lint Tests, in which measured amounts of various dusts and lint were introduced into the duct air stream; and Spray Tests, consisting essentially of the discharge of liquid spray into the duct air stream.

Air Tests

IN the so-called Air Tests, unfiltered air from the building containing only a trace of dust was forced through the duct system by means of the blower. Although the velocity of the stream was varied from thirty-seven feet per second to 316 feet per second, tests for the electrification of the ducts, made with a gold-leaf electroscope, were negative.

Dust and Lint Tests

IN these tests, air was discharged through the various ducts singly, in the same manner as in the Air

Tests except that a measured quantity of several kinds of dust or lint was introduced into the air duct stream. The various dusts used included grain, wheat starch, zinc oxide, and lycopodium.

Tests for the electrification of the duct and of the cloud of lint or dust as it issued from the end of the duct were made qualitatively with a gold-leaf electroscope and quantitatively with an electrostatic voltmeter. Repeated qualitative tests showed that marked electrical charges were almost instantly formed when lint or dust of the varieties used was admitted to the air stream in all of the different types of ducts. Quantitative tests were made only with the three-inch metal duct. It was observed that when any of the previously mentioned dusts was admitted to the duct air stream, even in comparatively small amounts, the net voltage in most of the tests, except when the ducts were grounded, was of a comparatively high order, the maximum voltage being over 10,000. Even with low-velocity air streams, of from twenty-six to thirty-nine feet per second, the net voltages produced by the clouds were relatively high, being 2500 to 6300. A comparatively small amount of lint produced a voltage of 5000. When the metal duct was grounded, charges of from 200 to 7500 V. were produced by the dust clouds.

While determination of the influence of the kind or nature of the dust or lint, and of such variables as concentration, velocity, and fineness, on the generation of static was not made, it was observed that within certain limits the magnitude of the static charge varied directly with the concentration of the dust or lint, fineness, and velocity of air stream, and inversely with the humidity of the atmosphere.

Spray Tests

BY means of a spray apparatus, a spray of gasoline (74 Baume) or of ethyl alcohol (absolute and 95 per cent) was projected into a three-inch insulated metal duct about fifty-four feet in length. This spray was directed toward the outlet. Qualitative tests made with a gold-leaf electroscope revealed that only slight electrification of the duct occurred in any of the spray tests conducted.

Conclusions

WHILE but little data are available as to the minimum static charge required to cause ignition by spark discharges, it is known that static charges of the magnitude of those obtained in the Dust and Lint Tests may cause ignition. It is likely that charges of lower potential than 5000 V., under favorable conditions, may cause the ignition of readily combustible materials.

It is therefore evident from the results obtained by these experiments, that blower systems for dust, lint or vapor removal should be electrically grounded to prevent the accumulation of dangerous static charges.* Although grounding of the ducts cannot be depended upon under all circumstances to eliminate static electricity, if all the joints of metal ducts are electrically bonded and the entire system is properly grounded, the static hazard will be minimized. However, as it was observed during the tests that the dust discharged into the air carried a static charge even when the ducts were electrically bonded and grounded, it is important that outlets of blower systems for the removal of dust, lint and vapor should be located away from combustible material.

*See N.F.P.A. Regulations for the Installation of Blower and Exhaust Systems for Dust, Stock and Vapor Removal. (Available to all members of the Superintendents' Society through the Secretary's Office.) Reprinted from the N.F.P.A. Quarterly.

This article has been abstracted from Underwriters' Laboratories Bulletin of Research No. 8, entitled, "Generation of Static Electricity in Blower Systems," which should be consulted for the complete technical data.



N. S. C. DISCUSSES REVISION ON "DUST EXPLOSIONS"

A SPECIAL meeting was called for October 18 at Atlantic City, N. J., by the National Safety Council to discuss a revision of the Council's Safe Practices Pamphlet No. 34, "Dust Explosions." H. R. Brown, U. S. Department of Agriculture, Washington, D. C. consented to preside at the meeting.

This pamphlet, one of more than 150 Safe Practices and Health Practices Pamphlets, is a compilation of experiences in accident prevention. The author lays no claim to covering every acceptable procedure in the field covered, nor is it intended to supersede any of the American Standard safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances. It is sponsored jointly by the National Fire Protection Association and the U. S. Department of Agriculture, under the procedure of the American Standards Association, 29 West 39th St., New York City.

GREEN BEANS PALL OF HANDLERS, PROCESSORS

WE are confronted with a situation on the soybean crop which we have never experienced before. Our largest crop ever raised is excellent as to quality and dryness in moisture, but with an exceptionally high percentage of green beans, which will be graded as "damaged." The situation is serious and is giving great concern to the soybean processors, and also to the elevators in trying to properly buy these beans on grade.

Beginning earlier this month buyers were warned to buy all beans on the basis of No. 4, other grading factors as to foreign material, etc., to govern just as though the basis was on the usual No. 2 grade.

It would be well to analyze a good sample of each carload and by quantity and actual count to determine the percentage of damage — *which includes beans which are green by a cross-cut section*. The percentage will probably run much higher than your judgment by eye will first indicate.

These green beans are producing green soybean oil, and only part of this green color can be extracted. This is why soybeans delivered to processors will be

WHY EMPLOYEES LIKE TO WORK FOR THEIR COMPANIES

A N indication of why employees enjoy their work is suggested by a poll of 758 papers entered in the Forbes contest.

- 1. Job security, insurance and savings plans, pensions — 90%
- 2. Opportunity for advancement, training, education — 89%
- 3. Medical treatment, cafeteria, recreation, etc. — 87%
- 4. Pride in company, admiration for boss — 82%
- 5. Personal help and attention from boss, congeniality — 71%
- 6. Wages, bonuses — 69%
- 7. Working Conditions — 43%
- 8. Employee-representation plans — 35%
- 9. Chance to show individuality, responsibility — 30%
- 10. Vacations with pay — 23%
- 11. Hours of work — 15%
- 12. Pride in work — 12%

The figures reveal the per cent of total entrants who mentioned the specific reason. — Forbes Magazine.

very carefully graded from now on. It would be well to keep any deliveries of No. 2 Yellow soybeans in a bin by themselves, as too much emphasis cannot be stressed on double-checking all grades to avoid severe losses.

J. E. BARR, Chief of Soybean Inspection Division, U. S. D. A., states that Federal Licensed Inspectors had been instructed to observe the following points in grading the "immature" soybeans.

1. Immature beans are considered sound if the individual bean is plump, well developed and not damaged by weather, heat, frost, etc., and a cross-section thereof shows the meat to be firm and of a light green color with a tinge of yellow.

2. If the meat, as shown by a cross-section, is an intense green color, or if it is green and of a mealy consistency, the bean is interpreted as "damaged" for purposes of the official U. S. grades.

3. It is impossible to accurately determine whether such immature soybeans are damaged without cutting them cross-wise.

4. In order to expedite grading soybeans of this character, inspectors may reduce the portion of the sample to be separated for damage to approximately 100 grams.

Continue to use the special soybean sieves to run your samples when grading these beans. You can not properly and accurately grade beans without these sieves. It will be a mighty good investment, and at a very small cost, to get a set of these sieves if you do not have them.

IT will not be long until the already contracted storage of the soybean processors will have been filled up with this enormous crop, so it will be well for you to immediately get all the available space in your own elevator in shape to possibly store these beans, pending the movement of them to the processing plants.

By all means, clean these beans as received, and get these seeds and other foreign material out of them before storing. I have observed several cars of soybeans, also several cars of grain, which have arrived in this market recently, in which is contained stones as large as a hickory nut, cinders, rusty nails and other material. You can easily appreciate the damage that will result to the rolls of a corn mill when running on to refuse such as this. Naturally, pretty heavy discounts are the result of *your carelessness* in permitting this material to get into your grain or soybeans. Much of the larger pieces would have been cleaned out if the beans or corn had been run over the cleaner when loading. — Fred K. Sale, Secretary, Indiana Grain Dealers Association, Indianapolis.

DON'T TAKE CARS HOME WITH YOU

THE Car Service Division of the American Railroads Association asks your co-operation in bringing about the maximum utilization of available car supply. Order cars in advance of their use, specify size, destination, routing and commodity to be loaded. Load cars to capacity, weight or cubical, as the case may be. Load and unload cars promptly.



ALL BUSY AT TWIN CITIES

THE elevators are all busy and we hope it continues. Our next meeting is slated for October 31st at the R. R. Howell plant. — F. Maynard Loise, Hallett & Carey Company, Secretary, Minnesota Chapter SOS.



BUSY AS A WEEVIL

INDUSTRIAL activity has exceeded earlier expectations. It is reported that the average September production index will be between 110 and 112 with the forecast that it may go to 115 or 117 in October and may average 120 for the last quarter of 1939.



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CORONER'S INQUEST CLOSES

THE engineers and chemists who made up the jury investigating the Calumet Elevator explosion in Chicago last May just reports "definite evidence of the inadequacy of the dust extraction equipment and the insufficiency of inspection and enforcement of measures for dust removal." Major Rufus W. Putman was foreman of the group.

We wonder whether all the older handling and processing plants are not going to have to revise their notions of efficient dust collection in light of the many reports that have and are continuing to point a finger in this direction, particularly inasmuch as the Calumet Elevators were rated high.

Before a jury of electrical engineers last month, Joseph Janaszak, a laborer in the elevator, testified that David Marvin, one of the men fatally burned in the fire, staggered out of the storage tanks in which the first blast occurred, his clothes aflame and screamed: "I tried to start it up and it happened."

Marvin's job was to start an electrically operated grain conveyor, and it is believed by this body that a spark from the equipment caused the blast. (Frequent inspection of all electrical and conveying equipment is one of those tasks that should take on growing importance from now on.)

★

DR. PRICE TO ADDRESS CHICAGOANS

DR. David J. Price, USDA authority on elevator and processing plant dust explosions, will address the Chicago Chapter of the Supers' Society and their invited guests at 4 P.M., Wednesday, December 6th. His subject will be: "Dust Explosion Prevention," according to an announcement by C. J. Alger, Corn Products Refining Company, President of the local discussion group.

Further suggested attention to effective dust control methods in grain elevators and grain processing plants has invoked considerable discussion which will doubtless be brought to a head at this conference at which many of the managers are invited.

Over 300 attended the last time he addressed this group.

★

DUST EXPLOSION COMMITTEE TO MEET

THE Dust Explosion Hazards Committee of the National Fire Protection Association has scheduled a meeting on Monday, December 4th, according to an announcement by Chairman Dr. David J. Price, USDA, Washington, D. C.

New developments, recent findings and controversial issues will be discussed.

It is believed that those interested in this pertinent subject will be welcome to attend the meeting in addition to the regular corps of members — which includes the Supers' Society.

★

FIRE CONSCIOUSNESS

ALL can participate in the continent-wide efforts made annually by the National Fire Protection Association to make everyone within your grain plant fire-conscious. Of course there should be regular intervals for checking all the moving parts around the plant, but Fire Prevention Week can well be utilized for calling additional attention to those out-of-the-way spots that are too often neglected from year to year. Alignment of belts, fire fighting equipment, dark spots accumulating refuse, rotor brushes, and a hundred other "forgotten-man" places warrant that "extra" effort meriting your attention at this time.

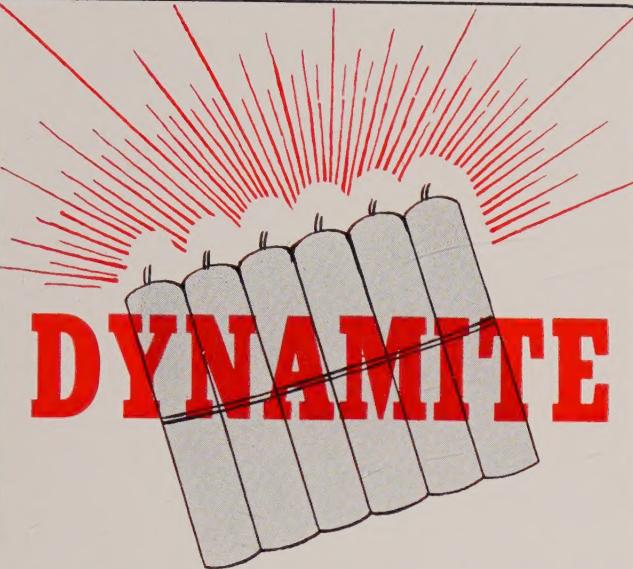
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OBSOLETE MACHINERY

Success in this industrial age is attained and maintained only by keeping up with the march of progress. The factory that was a leader in its line in 1929 would be a sorry "has-been" if it continued the production methods of that year and continued to use the same machinery. So it is with the elevator, the feed mill or any other line of business. The passenger train of the twenties would be scorned by the children of today who are accustomed to the swift flight of the stream-liners.

Some larger grain and feed plants are trying to struggle along with out-moded equipment that is costly to operate and that actually places a handicap on them. Such a struggle in view of present day competition can have only one end . . . the obsolete plant goes out of business. Skilled engineers are constantly designing improved equipment for mills and elevators and the progressive and successful operators are taking advantage of their efforts.

This does not mean that every year or two the feed man should throw out his grinders and mixers or that the elevator owner should junk his elevating and weighing equipment, but it does mean that when a piece of machinery becomes so obsolete that it endangers the owner's competitive position it should be discarded and a modern unit installed in its place. —W. D. Fleming, Secretary, Northwest Feed Dealers Association, Minneapolis, Minn.



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Keeping Up Appearances

J. W. THOMPSON, Chicago*

THE subject of "Property Maintenance" covers such a vast field that it appears to be quite impossible to cover all its ramifications in the space allotted. For that reason I offer qualifications and intend to limit this presentation to some of the major points as might be involved in "Building Maintenance."

After all, production machinery is highly specialized. That problem concerning its upkeep in your individual plant might be your headache alone and through your familiarity with it you are far more qualified to pass judgement.

Insofar as building upkeep is concerned, we are placed more upon a common ground, regardless of whether we have under our control one building or a dozen buildings and one grain tank or a dozen batteries.

There seems to be two distinct methods of handling building maintenance, one being where this matter is given active attention while the other deals with those few cases where little or no thought is expended.

Maintenance Appropriations Timely

PERHAPS each one of you as Superintendents of your respective plants have been faced in the past with a growing need for appropriations to be applied toward building maintenance. This has been offset by the lack of appreciation on the part of the Elevator Owner as to the value of such timely expenditures. You have seen your requests for such sums of money sliced to the bone and you have been forced to proportion the amount granted to those areas and to those subjects where the most immediate good will result. You have recognized after a period of time of such tactics that no longer were you following an intelligent maintenance cycle, but that you were already launched into a constant and costly replacement cycle.

This situation would apply to those who appreciate the importance of building maintenance but there is still this other phase of the question, that being the complete lack of attention to the subject. By far in the minority, in such cases it is quite commonplace to rely upon complaints of the employees or a casual round of inspection (while tending to other duties) to draw attention to maintenance matters. I saw a good example of the costliness of this practice not long ago which is well worth relating.

During a tour of a plant recently, our travels guided us to the top floor. It was purely coincidence a workman complained to his superior accompanying me, that a metal ventilator directly over his head had corroded to such an extent he thought it would fall and injure someone.

We checked on that vent only to find it had been installed ten years prior and since that time not a bit of attention had been given it. Its cost was \$40.00 originally, hence their investment was \$4.00 per year.

We associate paint as a protective film to prevent rust on metal, but this same illustration would apply were it a roof covering in need of a flood coat, an exterior wall requiring waterproofing. In the case of this vent not a drop of paint had been applied during its life.

Proper Maintenance Prolongs Life

IT is reasonable to assume that had a coat of the proper type of paint been applied at specified intervals we could perhaps have extended the life of this vent for another ten years before corrosion from the inside would have forced a replacement. Our cost investment per year would have dropped \$2.00 and plus the cost of maintenance let us assume it to be \$2.50 per year. What a comparison as against a \$4.00 cost on but this one item. Magnify this for the entire structure and think of the saving that can be made.

To eliminate a costly and constant replacement cycle, I draw upon the experiences of my company as well as the experiences of other engineers with whom I have talked and offer for your consideration a simple, inexpensive yet effective medium of overcoming such evil practices.

About 10 years ago in many Elevators it was the practice to allow the Superintendent complete control over expenditures of money for the upkeep of the structure providing such individual expenditures did not exceed, let us say, a maximum of \$100. Over and above such sum it was necessary to go to the front and request an appropriation and secure approval. Along came tougher times in business and all corners were cut where any saving could be realized. Building Maintenance expenditures were one of the first items to feel the ax.

Unfortunately time goes on, building deterioration continues and a penalty must be faced sometime. Superintendents went before the Owners with requests for

money for individual items and invariably saw their requests cut in half — if they received any at all. With this constant parade week in and week out, the owner never did know the true condition of his property holding expressed at one time in dollars and cents.

Annual Budget Reduces Costs

IN an effort to reduce building maintenance costs, to budget expenditures and to secure the needed appropriations, a detailed inspection of all phases of the building (exclusive of production machinery) is advisable each year.

To avoid forgotten areas and surfaces, to eliminate the possibility of overlooking anything, each major building and each grain tank of the entire plant unit can be divided into three general classifications, namely: Roof, Exteriors, Interiors.

On the roof of a building, for instance, we have such factors as copings, flashings, roof coverings, conductor heads and gutters, etc. For each one of these items there can be prepared detailed and simple questions to serve merely as a guide to the inspector. As an illustration let's take copings and offer questions to check for broken tile that require replacement, to check the mortar joints that should be renewed and the number of mortar joints that should be waterproofed with roof cement or similar.

This inspector is usually a young man selected from the organization, not necessarily an engineer at all, nor need he be too familiar with building construction. He is simply acting as your eyes, relieving you of the detailed responsibility for which time you can ill afford to spend.

As this inspector noted conditions found wanting, he jots down notes. Upon completion of his inspection he will have a group of memos which are quite worthless to you until they are recapped into a dollar value. Based upon your prevailing labor costs plus the material costs, it is relatively simple to secure itemized figures for each operation.

Fortify With Figures

WHEN these itemized costs are collected, they can be combined into group figures indicating total expenditures required to put the roof, exterior and interior of a given building in 100% condition — the combination of the three indicating that amount required for that particular building. A combination of all buildings and all tanks would produce

that sum of money required to put the entire plant unit in 100% condition.

You are in position then, to proceed to your superiors, armed with as much information as is required, in as much detail as is needed, to back your arguments for the required appropriation. In many cases through past experience it has been found that this was the first time the superior ever had an opportunity of visualizing the conditions of his buildings at one time in dollar and cents. I can assure you if you have never attempted such an idea that the results are startling.

If a period of neglect has been suffered in the maintenance of your structures because of one cause or another, this first inspection will reveal a multitude of things wrong. The demand for needed appropriations would be exceptionally high. It is not conceivable that the total sum would be advanced in one year.

Spread Budget in Case of Neglect

PERHAPS this thought will appeal. Divide the initial sum into four equal parts, establishing a four year maintenance program by spending a quarter each year. This would not produce exceptional hardships. Continue your inspections each year regardless. At the end of the fourth year you have theoretically brought your plant up to 100% condition, but there is still that disintegration which has taken place during this four year time. The fifth year will require a sum about equal to that spent in any one of the four years preceding.

It is only now that you will realize a saving. The campaign on building maintenance was started at a low ebb. It costs money to reach a high plane. After that plane has been reached it costs far less to maintain that level. From past experiences, by following this or other similar plans, savings of about 40% are realized over a period of time.

Remember the old Proverb "A Stitch in time saves Nine." This is the basic principle of the idea outlined.

Paint Aids Safety Efforts

THUS far we have delved into the general aspects of building maintenance. However, one can hardly conceive of tackling such work without associating it in some form or other with painting. Proper painting practices coupled with the use of proper paint materials is a requisite to the conduct of economical property upkeep.

Paint is generally used to accomplish one or more of three general purposes, namely; beautification, preservation and safety precautions or "eye openers to danger."

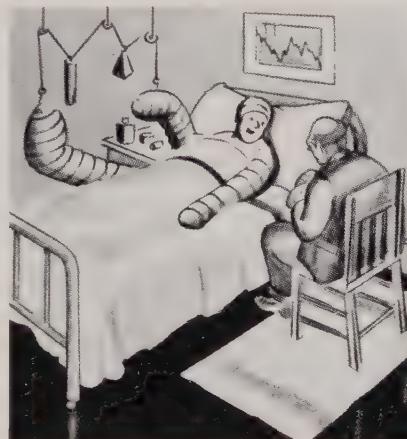
Let us review some of these highlights as they would affect your own particular industry or better still, your own particular plant.

As a general rule in the Grain Elevator business, little attention is paid to exterior painting for beautification. Such work is usually allied with waterproofing and preservation. Too little thought has been given to the decorative value of painting exterior surfaces.

Would it not be well to think of the exterior of your plant in much the same manner as we regard advertising? Advertising value is measured by color brightness. The longer a sign maintains its color brightness, the longer it retains its advertising value.

Certainly the unsightly appearance of concrete buildings or cracked and stained grain elevators could easily fall into the classification of poor advertising. Repairing and waterproofing these surfaces with the proper type of oil base paint would indeed give them better eye appeal and eye appeal means favorable public comment.

Painting the interior of a grain plant for "beautification" is not generally termed as such. Rather we consider such work



"Yeah, I told the guy his furnishings were a beautiful example of the Italian Renaissance. How could I know he was an Albanian?"
— National Furniture Review.

as associating itself with better light, cleanliness, promotion of sanitation and improved morale.

Let us dig just a little deeper into this problem of interior painting.

Interior Painting

IN any grain plant we are rightfully concerned with the problem of light. After all, light produces brightness and becomes visible only when the surfaces reflect it. It is obvious that paint and light are interdependent and almost synonymous in this respect. Walls, ceilings and other prominent areas in the visual field play important roles in the quality of lighting and therefore paint is an important tool in producing the proper environment.

The color of painted surfaces determines the volume of reflected light. Brightness

is created only when the surfaces reflect light. To further appreciate the economic importance of that fact, it is necessary to understand the light reflecting characteristics of various colored paints.

Of the total amount of light passing into a room area, a certain percentage will be absorbed or "soaked up" by the various surfaces within the room, and the remaining percentage will be reflected or "turned back" into the room area.

Obviously then, the percentage of light which will be reflected or turned back will largely be determined by the prevailing colors of the various surfaces in the room, such as the walls, ceilings, partitions, truss-work, machinery, equipment, etc. Reflection factors of the ceiling and upper structures generally should be high. Often it is necessary to use lower reflection factors for walls and other surfaces more prominently in the visual field.

White Has Greatest Reflection Factor

WHITE paints have a reflection factor of 85% to 90%. The deeper the tint or color, the lower the reflection factor will be. Therefore a tint like light ivory carrying a percentage figure of about 70% indicates it will reflect back into the room area 70% of the total amount of light thrown upon it.

The degree of gloss and texture of painted surfaces determines the distribution of reflected light and the control of glare. A ray of light which is reflected from a highly polished surface is merely deflected away from that surface in the same manner as a rubber ball might bounce away from the floor. It is in the presence of such reflection that we sense and are annoyed by a striking glare.

Properly diffused light is broken up and turned back in numerous parts in much the same manner as a stream of water would be when played against a wall, breaking it up into a mist.

Paints which produce a Flat, Satin, or Eggshell finishes, or which may be termed comparatively low in degree of gloss quite obviously are more efficient in diffusely reflecting light than are those with high degrees of gloss.

Generally speaking, the higher the gloss the greater the ease of washing but in inverse ratio, the higher the gloss the quicker the film will collect dirt. And incidentally, in connection with the subject of dirt collection, another interesting point is that paints of the same texture and sheen, under identical exposures collect equal amounts of dirt regardless whether they be white or tints.

From the facts as outlined, it is recognized that offices, for instance, are most effectively finished with flat or low sheen paints in white or pastel tints thereby providing a soft comfortable atmosphere

YOU WOULDN

In a Le



WHY STORE IT

PROFITS! That's what you are interested in, isn't it? And if your firm doesn't show the profits it should show then... well, things start "poppin'", don't they?

Here's a profitable hedge if your "GRAIN ACCOUNT" looks sour: Consult your B.J. M. engineer; have his sharply trained eye point out to you hidden channels of loss, fluctuating lines draining your resources, weathered networks tapping your capital gains.

You'd like to "see for yourself" whether you are pay-



*Phone, wire or write while
to help you salvage so*

Call in

BEN J. MANY C

IT SHIP GRAIN

ky Sack!

IN A LEAKY BIN?



ing Mother Nature a premium for off-grade ravages? . . . We can't show you deterioration or disintegration that doesn't exist, can we? And we'll put up our money that you'll voluntarily tell us that your calling in your B.J.M. engineer to make an inspection in your presence was the wisest of profitable moves.

You wouldn't ship Grain in a leaky bag! Why store it in a leaky bin? Our consultation service is yours for the asking.

*There is still ample time
of this year's profits!*



ORPORATION

30 N. LA SALLE ST.
CHICAGO, ILLINOIS

in which to work and from which the greatest efficiency will result.

Within the mills themselves, together with associated areas, so-called mill whites are generally used. These finishes are available in various sheens ranging from dead flat to high gloss. Choice of sheens rests largely upon the individual, together with conditions of exposure.

Fume, Dampness, Mould-Resistant Coatings

SOME Superintendents are associated with companies that process the grains in one form or another and are therefore in charge of plant areas that present abnormal conditions directly affecting paints. In such instances where the presence of fumes, absence of daylight, excessive humidity or heat may be found, which would normally yellow or otherwise affect the average paint, fume resistant or fume proof paints are worthy of use. While somewhat higher in price than ordinary oil base paints, their splendid performance in color retention and durability makes them less expensive in the long run.

In some interiors, darkness, dampness and other abnormal conditions foster the growth of mould and other types of fungus on walls and ceilings. Here is an ever-lurking hazard especially pointing toward the contamination of food stuffs.

For this purpose it is advisable to use a fungicide paint which has been designed to resist the growth of spore producing bacteria or fungus. This not only improves the sanitation and general all-around appearance of the building interior, but assists in eliminating loss due to contamination.

*Mr. Thompson's authoritative article will be concluded in the next number of "GRAIN." Mr. Thompson is one of the experts on the staff of the Pittsburgh Plate Glass Company.



LAWN MOWER A BREAD-SLICER

A loaf of bread from your front lawn looms as a possibility if the experiments of Russia's Dr. V. N. Tsitsin mature as promised. The Soviet scientist has succeeded in crossing a hybrid variety of winter wheat with couch grass, giving him a smut and rust resistant plant which survives drouth and frost alike and is capable of producing a high class flour. He is at present conducting extensive experiments in the Arctic regions.

Now if only some genius would cross the SOGES bank account with the Government mint . . . !

MY EXSPEARANCE IN ELV. BIZNESS

(a ten year old's essay)

First I guess I'd better explain just what a Elv. is. It's a great big Building with a lot of things that look like Silos only bigger. These things are Tanks and when they are empty they leave a lot of space to put Wheat and stuff in. When I was a Young Feller of only 6 or 7 I used to think that all a Elv. did was to take Corn and stuff out of Box Cars and then stick it in some more Cars or Ships or something. But there's more to it than that.

UNLOADING BOX CARS

Judgin from what I've seen in my Travles round Elvs. they work it this-way. A Enjin from the Railroad pushes a bunch of full Box Cars onto a Track and goes away. Then a Man from the

TIME OUT! By Chet Smith



Elv. ties a Iron Rope on the first Car and waves his Arm. The Rope pulls the Car into a Room where a big hunk of Machinery like a Cradle lifts it up and tosses it around and spills the Wheat or Corn or whatever ETC may be in it into a big Slot called a Hopper. There's a lot of Red and Green Lights going on and off and then the empty Car is pulled away and another won takes its place. It only takes a couple minits to do the job. I unnerstand thow that most older Elvs. do this work difrunt. They have men go into the Cars and drag out the Wheat and ETC with Square Boards. These Men are called Shuvvlers.

OPERASHUN & MASHINERY

The Hopper has a great large Belt running into it with Iron Pans fastened to it which carry the Grain upstairs and dump

it into big Boxes called GARNERS & SCALES. Some Men way the stuff and then open a hole in the bottom where all the Grain runs threwo onto a Belt and goes to some Bins or Tanks. The difrunts between a Bin and a Tank is a Bin is in the what they call Work House and the Tank sits along side with a whole lot more.

Theres all kinds of Mashinery in a Elv. for cleaning and separating and clipping and drying only the drying is done in a little Bldg next door. Cleaners take dirt and stuff outa and Separators take difrunt Grain apart like Corn from Wheat and Oats from Rye and stuff. Clippers nok the tails offa Oats and make them look real slick. Driers cook the Grain until the moystur isn't so much.

SHIPPING & INSPECKSHUN

When a Elv. sends out Grain they call it Shipping even when they don't put it in Ships. Sometimes they run Grain from a dozen difrunt Bins and Tanks and mix it all together and make a 1st Class bunch of Grain. They must know what's in every Bin and Tank cause when the Inspectors poke hollow sticks into the shipped Grain and take little bags of it its gotta be just perfeck. They have a hole Offiss full of little Scales and Pans with a lot of holes in the bottoms and cooking Mashines and Dokkers. When they get all threwo using these they find out the Men in the Elv. mixed the Grain rite.

My exspearance in the Elv. bizzness teaches me that there's a lot of sides to it and I perdrick a grate future in time to come for it—speshally when things get bizzier.



YOU BET IT PAYS

An Arkansas woman advertised for a husband. She got one at a cost of \$9.00. He enlisted in the army and was killed. She got \$3,000 insurance and a widow's pension for the rest of her life. Yet, some will tell you that advertising does not pay! — Typo Graphic.



DAILY BREAD TERRIBLE?

Some Badminton bread tokens were recently on sale at a London salesroom, states **The Miller** of that leading metropolis. These are a relic of the bread riots of the late eighteenth century, and were made to commemorate the part played by the then Duke of Beaufort to combat the corn shortage. On them was inscribed "One shillingsworth of bread, three and a half pounds, Good Lord deliver us."

Human Engineering



by C. S. BOOTH

Managing Secretary, Employers' Association of Manitoba, Winnipeg

(Concluding Installment)



Suggestions for Improving Relations

I have no hesitation in saying that a large majority of employees are honest and want to do a fair day's work for a fair wage, and there are few employers who are not willing to provide reasonable wages and satisfactory working conditions although, of course, there are some in each group who do not hesitate to take every possible unfair advantage, and it is in the best interests of everybody to expose them and where possible to get rid of them.

While many employers have given much thought to improving the relationship with their employees, I believe many still remain who might improve their situation greatly if they would give more thought to this problem. There may be honest differences of opinion under the most favorable operating conditions, but there are few matters which cannot be settled amicably provided the proper attitude towards the other party exists on each side. In the first instance it is largely up to the employer to establish such contacts with his men as will induce such an attitude.

What I have in mind is provision for flexibility in the employer-employee relationship which will permit the worker to share to a greater extent in variations in his employer's business.

The following are some of the points to which all of us should give greater consideration:

Know Your Men

There is no single factor which pays better dividends than to have and show a sympathetic interest in your men and

their problems. It is often not practicable for the head of a firm to do this but those of his staff who are in touch with the men can do so and can thereby engender a loyalty in the men which will carry him safely through many a difficult situation.

Select Your Foremen Carefully

A good technician is not always a good foreman, and unless a foreman can secure the willing co-operation of his men he is a liability rather than an asset. Your time will be well spent in carefully selecting and training your foremen.

Avoid Labor Turnover

You all know too well the cost of labor turnover. To avoid this the greatest care should be taken in the selection of men, and your employment manager, or the executive who fills that office, should be selected with a view to his ability to select the type of men who will be an asset to your organization. In any event the practice of leaving the matter of hiring and firing to individual foremen or departments is much too hazardous and unsatisfactory to be permitted.

Wages

This to the worker is, of course, the paramount consideration in his relations with you. The well-being of his family is dependent on it. Generally, if you can visualize yourself in the other fellow's place and then, with the knowledge you have of the conditions of your business, fix his wages at what you conscientiously believe to be fair, you will not go far wrong.

Just now the trend of wage scales is

upward. Costs of living are higher, and already many increases of wages have been put into effect.

May I suggest to you that you review your own situation carefully and if you find your business warrants an increase in wages, that you give it. If you yourself ever got an increase without asking for it you will know how favorable a reaction would ensue. If you can see that you are going to be asked for an increase and will have to give it, it is far better to anticipate the demand because you will get no credit and very little thanks for increasing wages after your employees have demanded it.

The Employee Representation Plan

The Employee Representation Plan is in operation in a number of plants. Under it a committee is formed composed of representatives appointed by the management and representatives of the employees who are elected from their own numbers without any interference from the management. This committee is empowered to discuss and make recommendations in all matters affecting wages, hours, working conditions, complaints and like subjects. Such a committee affords protection to the worker against unfair treatment or unjust dismissal.

Miscellaneous

Many industrial organizations have provision for Pension Schemes, Group Sickness and Life Insurance, Vacations with pay, guaranteed minimum of working hours and promotion from the ranks. All these schemes are worthy of consideration and in cases where they are practicable they all tend towards promoting stability in the Employer-Employee Relationship.

Conclusion

In conclusion let me say this:

In many individual cases harmonious relations can be maintained even under present conditions, but generally, there is a pressing need for uniform and adequate legislation which will deal with the whole problem of business and labor relations. That having been achieved there must be a strict observance of the law by both sides and swift and sure punishment for those who break it.

Of equal importance is the cultivation and development of a spirit of mutual understanding and co-operation.

Human fallibility is such that we can never expect to become perfect, but in the meantime sincere endeavor to do what is right will in most cases bring its own reward.

PREFERRED!



Here are close-up views of Rosenbaum Brothers' Calumet Elevator in Chicago after the inferno—started by a dust explosion. The concrete walls were literally baked to a crisp. We were selected to restore them, as shown in the center view, where caulking operations are in progress, and at the right, where elastic Surfacite is being applied as a final operation.

Surfacite *Waterproofing*

... Preferred because all disintegration and cracks are repaired with GUNITE, which is stronger than concrete, is hard, dense, waterproof with perfect bond to the old concrete.

... Preferred because then all surfaces are covered with the soft, elastic material—SURFACITE—many times the thickness of ordinary waterproofing.

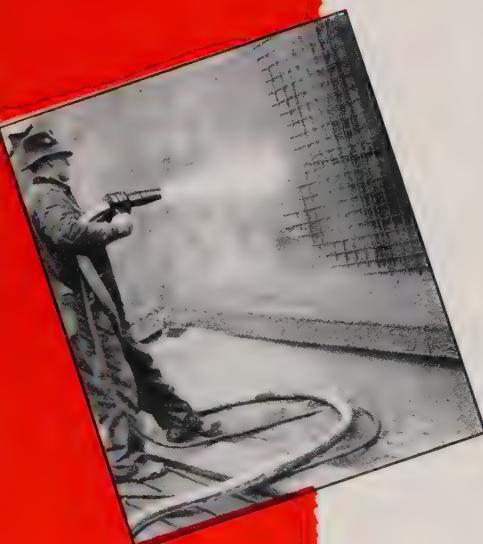
... Preferred because SURFACITE compensates for movement by a tough elastic hide and with a long-life flexible material bonded to the concrete.

You, too, will PREFER our services after we have gone over your problems, submitted facts, ideas and costs.

JOHN D. BOLTON -- GUNITE CONTRACTOR

20 NORTH WACKER DRIVE

CHICAGO, ILLINOIS



Wheat Washing

By ARTHUR W. SHELLEY, Superintendent
Blair Milling Company, Atchison, Kansas*

WHEAT washing and drying is a subject that has been very ably discussed at some of our previous meetings.

However, in going over our different phases of milling in search of a subject to write upon, I decided that the wheat cleaning department is one of the most important departments of milling for the simple reason that clean wheat is absolutely necessary if we expect a high class grade of flour. We may be masters of every other situation in the mill, but dirty wheat at first break roll will cause trouble that no miller can overcome satisfactorily, regardless of the skill he may possess.

I am very strongly in favor of wheat washing, and in fact I think it is the only way to clean each berry alike at this day and age.

If our hands were soiled we would not expect to cleanse them by rubbing the dirt off, but would wash them thoroughly with water, thereby cleaning them properly.

If we sent our clothes to the laundry and the laundryman placed them through the washing process without using water, do you think this would be satisfactory? Now let's connect this washing machine up with a fan to draw off what dirt the rubbing process would dislocate, or in other words make a scouring machine out of it. And wouldn't you still think the results would be very unsatisfactory?

This, in one sense of the word is the way we go about cleaning wheat when we are completely depending upon the dry cleaning method, which is prevalent today. Most practical millers of today agree that the tempering of wheat is a serious problem, for without an even temper our mill will be thrown out of balance. Every time the temper changes, up or down goes our color, and the yield and ash are affected likewise.

I THINK a wheat washer and dryer is the best conditioner ahead of the tempering bins I have ever seen. And if there were no cleansing action it would be worth all it cost for this one reason.

You may ask, why is it superior in this respect over the tempering conveyor? I will say in answer: If enough water was put on the wheat in a conveyor to wet all grains alike and do good tempering it would be too wet for milling.

With a wheat washer the wheat is thrown through the water at a high rate of speed, and every grain is completely submerged in the water. Therefore the berry is not made damp as it would be with a tempering conveyor, but thoroughly wet. You may say, "What has this to do with tempering?" I will try to illustrate, leaving out all technicality, so all may understand.

Most grades of milling wheat will absorb close to 2% moisture just as soon as submerged in water, and naturally the longer it is left the more it will absorb. But the excess moisture can be thrown off by centrifugal force, and take the dirt with it. And it is then dried down by the fans in the washer to the moisture content desired.

All sound wheat has an opening or mouth in the germ end of the grain, and when it is completely submerged this mouth opens very quickly, in fact much quicker than it does by simply dampening it. Through this mouth absorption first takes place, by means of the fibrous walls which make up the cells leading to this opening. Naturally at the same time the bran coatings are also absorbing, but not as rapidly as through the mouth of the berry. Therefore to be evenly tempered wheat should be submerged in water and the excess moisture thrown off. And this cannot be done with a wetting conveyor.

Therefore, with a wheat washer we are sure of a more even moisture content in our temper. This gives the miller a better opportunity to produce a uniform flour.

However, a wheat washer does not make any distinction between wheat grains, and cannot control the absorption of different types of wheat when they are all well mixed together as a blend, but on a mixture of hard and soft varieties tempered together, it will still prove more efficient than a wetting conveyor.

THE wheat washer as a cleanser cannot be equalled by dry cleaning. And the day is not far distant when all mills will use wheat washing and drying machines for cleaning their wheat properly. What I mean by "properly," is to clean each berry alike without too much loss in power, broken grains, attention and loss in reducing the thickness of the bran by too much scouring action. All of this takes place when the wheat to be cleaned is traveled through an endless

line of tempering conveyors, elevators and scourers.

To the mill owner it costs money to look after all this machinery; it costs money to drive it; and it costs money to keep it in working order, and the results are, you still have dirty wheat—wheat that makes flour that will not analyze, or bake as well as flour made from washed wheat.

The wheat is dirty for the reason that no amount of dry cleaning will get the dirt out of the crease and beard of the grain unless it is scoured down to the crease. And when this is done there is little bran left on the wheat. The ash in the flour will be higher and the color will be bad, for the reason of this small amount of dirt on the wheat and because the bran has been scoured too thin.

WHEN the bran on wheat has been scoured to the thickness of a bee's wing or scoured so severely that the bran coatings are commencing to separate, a large percentage of pulverization on the break rolls can be expected. The pulverized particles, being near the size of the middlings, it follows the middlings through the reductions to the tail of the mill, and each grinding puts so much ash and "off color" in the flour.

It stands to reason that if the bran and fibrous walls of a grain of wheat are made tough and elastic and not over-scoured, it will not disintegrate into small particles and be scalped off with bran and tailings. This leaves the middlings free of fiber and clean so that they may be easily bolted and sized for smooth rolls as the meshes in the silk and wires are not clogged with fibre and pulverized bran. It gives the purifiers less work to do, gives the bolters more capacity, and the rolls more grinding capacity. The roll feeders spread the stock better and the grinding is more uniform and not so close, as it is much easier to grind clean middlings of a uniform size than a mixture of middlings and fiber.

It follows that if the bolting is better, and the rolls not grinding so close, that the power consumption per barrel of flour is less, and furthermore, the mill will run more uniformly and require less attention.

You may say that a wheat washer is too wasteful, or sending too much stock to the sewer that could be saved by dry cleaning and sent to feed bin. There is some waste to a wheat washer we will agree, but with the modern washer there is very little, if the wheat has been well cleaned before washing. And what I mean by well cleaned wheat, is wheat that has been well aspirated and the small berries taken out and sent to the screenings bin, also dust and all foreign matter removed.

Then you will find your wash water is

not containing much of any value going to the sewer, for there isn't much weight to the dirt in the crease and beard of the berry. It will not exceed one-fourth of one percent. And this is greatly offset by the power saved and better yield if you desire, and increase in capacity if you desire. In the present dry cleaning equipment a washer will replace from one to two scourers.

In fact, we have made a demonstration within our mill "B" with one scourer after washing, and have found the results more satisfactory than when I was using three scourers without the washer. However, in making this demonstration I used a good aspirator ahead of the first break roll.

OPERATE your wheat washer with good judgment; you will be well paid if you are operating a modern machine. If you are trying to get good results with some of the old makes, which are as severe on the wheat as dry scouring, you will be disappointed, for you cannot scratch and tear the bran and expect it to cling together on the break rolls. There is no use taking up time to remind you of this, for you know what your results will be.

If you are washing a hard, vitrous wheat you can run your washer slower than on a softer type of wheat, for the simple reason that the absorption is slower and you will not need the volume of air to dry it down, as it will take more moisture. You will then find your wash water very dirty but containing little of value going to the sewer and vice versa for the tougher types of wheat.

You must think for your washer—they will do everything but your thinking.

*In Association of Operative Millers' Bulletin, reprinted from ten years ago. Our next authoritative article on this subject will indicate today's trends.

JIM SHAW IN HEADLINES

IN a special issue of the Canadian Pacific Railway Staff Bulletin commemorating the visit of Their Majesties,

The King and Queen, to Canada and the important part the railroad played in their visit, Jim Shaw's 7,000,000 bushel elevator at Port McNicoll, Ont., and the part it plays in moving the crop eastward to the British Isles is interestingly featured—as is the roads' 1,000,000 bushel elevator at West St. John, N.B., operated by Superintendent Kenneth Miller.



interestingly featured—as is the roads' 1,000,000 bushel elevator at West St. John, N.B., operated by Superintendent Kenneth Miller.

STANDS OUT

Want to be among those to congratulate "GRAIN." It is really a very attractive publication and should stand out among the trade journals. And you have some splendid ads, too. They should be well repaid.—Dr. T. Dale Yoder, Professor of Personnel Administration, University of Minnesota, Minneapolis.



"EXISTING CONDITIONS" IN CANADA

SOME of the look-ahead members of the Society of Grain Elevator Superintendents were somewhat concerned about how conditions in Canada will affect the holding of their 1940 annual convention in Toronto on April 1-3. So an investigation was started to learn just what these "existing conditions" are. And here is the answer:

We learn that there is no change whatever in the regulations governing international travel between Canada and the United States. No passports, no birth certificates or other special identifications are required; tourists and convention delegates are accorded every courtesy by the immigration officers. There are to be no embarrassing questions. Naturalized citizens of German birth are advised to carry their papers to avoid delays, however, the fact of their German birth has no bearing on their entering Canada as American citizens. Immigration authorities have instructed representatives at the international boundary to continue without change the regulations which have been in effect for many years except, if possible, to show even more courtesy to American visitors.

Assurance has been given by several authorities that business is continuing as usual in Canada, with possibly even better results. For the purpose of keeping an accounting of Canada's foreign exchange situation and to prevent the sale of securities abroad, visitors to Canada are asked to fill in a form should they carry more than \$100 into the country. They may at any time take out as much as they bring in. At this writing the American ten spot is worth about eleven dollars in Canada. (That should not scare anyone away.)

None of the leading hotels have been "taken over for soldiers," as may have been rumored. The hotels are making no changes in their rates or services. Convention exhibits enter Canada duty free, same as before war was declared, and under the same regulations.

The railways, hotels, convention bureaus, and the Canadian members and their friends are all ready to assure and to welcome. So don't let the "jitters" get you but go ahead with your plans for Toronto next April.



MORE BULLETIN BOARD MATERIAL

WE are endeavoring to bring our crew here to a realization of the possibilities and dangers of dust explosions in grain elevators, and in furtherance of this object we would like to get some posters or literature dealing with the subject. If you have any, would you kindly forward some to us. I might add that our plant is as near fire-proof as possible, but do not consider it explosion proof.—C. A. McCallum, Superintendent, National Harbours Board, Churchill, Man.

Ed.: In view of the above and many other similar requests for bulletin board material "GRAIN" will publish suitable pictures from time to time. Pertinent efforts along this line are being undertaken by the Safety Contest Committee of the Superintendent's Society with bulletins and posters being distributed periodically. The fee to members of the Society is but \$5.00, — which is \$15.00 well spent if only the Safety Contest material is used.



MILL EXPLOSION AT LIVERPOOL

ASERIOUS explosion in the mill of Calthrops, Ltd., at Liverpool, who are makers of oil-cake and other animal feeding-stuffs, occurred on September 14th, the explosion taking place, it is believed, in one of the silos (tanks).

The mill is one of five stories, and the force of the explosion blew a number of men who were working at the bottom of the silo off their feet; some of them were badly injured, and they, with others who sustained shock and slighter hurts, thirty-seven altogether, were taken to the hospital.

Following the explosion a fire broke out in the top two stories of the mill, and the main efforts of the fire brigade were directed to confining the fire to that part of the building, in which it was successful after some hours of strenuous work. But the top of the building and the side where the silos stood were little better than a mass of debris.—*The Miller*, London.



For Your Bulletin Board

(Courtesy Chicago Board of Fire Underwriters)

RICE, HEFFELINGER TO VICE PRESIDENCIES

SAM L. Rice of Metamora and Toledo, Ohio (good friend of the Superintendents' Society and a terminal elevator operator himself,) was elected first vice president of the Grain & Feed Dealers National Association at the recent convention in Minneapolis.

Elmer H. Sexauer, seedsman and line elevator operator of Brookings, So. Dak., succeeds Otto F. Bast of Bast Grain Company, Minneapolis, to the Presidency.

F. Peavey Heffelfinger of the far-flung Peavey interests of Minneapolis, Duluth, Winnipeg, Fort William, etc., moves into the second vice presidency. (A number of Mr. Heffelfinger's superintendents are active in the Superintendents' Society.)

Ray B. Bowden was re-elected executive vice president.

There was a total attendance of at least 600 but the registration showed only 500 names, distributed as follows: Missouri led with 60 names registered, Illinois 46, Iowa 44, Indiana 22, Ohio 20. States having less than 20 registrations shown are: Texas, Nebraska, North Dakota, Virginia, California, Oklahoma, New York, Kansas, Washington, Louisiana, Kentucky, Tennessee, Montana, South Dakota, Wisconsin, Maryland, Michigan, Pennsylvania, Massachusetts. Canada gave three registrations, District of Columbia six.

New directors were added to the board, which now includes: A. C. Koch, Breese, Ill.; E. B. Evans, Decatur, Ill.; C. C. Barnes, Winchester, Ind.; G. A. Pritchard, Fortville, Ind.; Hugh Hale, Royal, Iowa; R. C. Booth, Cedar Rapids, Iowa; F. A. Derby, Topeka, Kans.; A. L. Riedel, Saginaw, Mich.; F. W. Lipscomb, Springfield, Mo.; George A. Stites, Union, Neb.; Lionel True, Springville, N. Y.; Paul White- man, New York, N. Y.; C. F. Morriss, Charlotte, N. C.; Fred E. Watkins, Cleveland, Ohio; George E. Blewett, Fort Worth, Texas; E. J. Martin, Norfolk, Va.; A. J. Haile, Sokane, Wash.

These directors elected the following Executive Committee: Fred E. Watkins, Chairman, Elmer H. Sexauer, J. H. Caldwell, F. Peavey Heffelfinger, Sam L. Rice, Ray B. Bowden and Otto F. Bast. The secretary is E. G. Kiburtz; assistant secretary, Ron. Kennedy.

In 1940 the convention will be held at Louisville, Ky., and subject to confirmation by the new board elected at that meeting. Toledo, Ohio, will be the meeting place for 1941.

FRANK "SLIM" CARLSON ELECTED

INDUSTRIAL safety work of the Duluth Chamber of Commerce will be headed by Frank E. "Slim" Carlson of the Occidental Terminal Division of Russell-Miller Milling Company's elevator in that grain center.

Work has already begun on drafting the sixteenth annual series of industrial safety conferences by Mr. Carlson and his committees. Monthly dinner meetings are conducted for all officials and plant employees throughout the fall and winter. From his talks before the Superintendents' Society all of "Slim's" admirers know his administration will be most successful.

"Slim" was also recently elected a vice president of the Minneapolis Chapter of the Superintendents' Society. Looks as though "Slim's" arch contender for the story-telling throne—Roy Heinrikson of Sioux City—is going to have to get busy with the Omaha-Council Bluffs Chapter to maintain his standing.



EMPLOYMENT BUREAU

A confidential, complimentary service. Address your inquiries to "GRAIN", Board of Trade, Chicago

Positions Wanted

Grain Inspector:—Experienced, ambitious grain inspector seeks connection with grain or processing plant. Employed at present but not in this favored work. Best of references. Address 39R1.

Superintendent-Buyer:—Experienced in handling all varieties of wheat and coarse grains, domestic, milling and export. Specialized in barley, oats and rye past three years. Go anywhere. Best of references. Address 39M1.

Millwright:—Thoroughly capable and experienced. Handle any sized job. Willing and reliable. Address 39M2.

Positions Available

Construction Superintendent:—Give experience and references, salary and availability to leave country. Address 39M3.

Elevator Superintendent:—Opening in South American million bushel corn plant. Would expect contract for term of years. Advise monthly compensation (American money) expected. State experience, give references, age, etc. Address 39M4.

MINNEAPOLIS SUPERINTENDENTS ELECT

M. Noxon, Ralston Purina Company, president of the Minneapolis Chapter of Superintendents' Society, announces that he will assume the chairmanship of that unit's Safety Committee. With him will serve James Auld, Hales & Hunter Co., Saint Louis Park, and Louis Fried, Spencer Kellogg & Sons.

Past president Paul Christensen, Monarch Elevator Company, heads the Membership Committee, assisted by Ed Raether, assistant secretary of the Minneapolis Chamber of Commerce, Ray Brusseau, Atlantic Elevator Company, A. C. Leighton, Kunz Oil Company, and Charlic Gemlo, Strong-Scott Manufacturing Co.

E. L. Dobbin, Van Dusen-Harrington Company, heads the Attendance Committee, aided by Clarence Bach, Twin City Trading Co., Carl Elstad, Cereal Grading Co., and George Dunkelbeck, Monarch Elevator Company.

Chairman of the Entertainment Committee for the monthly Chapter conferences is Jack Coughlin, Brooks Elevator Company, past chapter president. With him will serve Vin Shea, Van Dusen-Harrington Company, and George Patchin, Appraisal Service Company.

The chapter held their fall meeting on September 26 and have their next gathering slated for Hallowe'en, October 31, at the R. R. Howell Company plant where a number of innovations will be inspected.

FRANK BEYER HOME

MEMBERS of the Society of Grain Elevator Superintendents will be pleased to hear that M. Frank Beyer, who for the past three months has been

in the Luther Hospital at Eau Claire, Wisconsin, arrived home in Fort William July first.

Mr. Beyer made the trip from Duluth via boat which, as he says, made the journey much easier.

"After twelve weeks in bed, it seems difficult to get these old sea dogs to do their stuff," Mr. Beyer confides, "but think in time they will be o.k."

(You bet they will, Frank, and we'll run you a foot-race in Toronto next April.)

Better DUST CONTROL

WILL DEFINITELY

- Minimize dust explosion hazards
- Produce better working conditions
- Reduce operating labor costs
- Save on power costs
- Give longer life to all machinery



DAY SYSTEMS

set the standard for
DUST CONTROL

in grain elevators

You profit by our experience
Your inquiries do not obligate you in any
way.

THE DAY CO.

2938 Pillsbury Ave., Minneapolis, Minn.
In Canada, The Day Company of Canada,
Limited

Worried about WEEVIL?

Read these **RESULTS** of
TWO TYPICAL GRAIN FUMIGATIONS
using **Larvacide**

CHLORPHOSIN

SOFT wheat, in concrete bins. Job done with simple application of 2 lbs. of LARVACIDE per 1,000 bushels, plus a little extra top and bottom. Treatment as described in detail in LARVACIDE Literature — FREE on request.

Insect
Count
prior to
Treatment:

	Sample No.	Live Count	Sample No.	Live Count
(2-quart samples taken from belt by hand)	1	2	1	100
every few minutes)	2	3	2	50
	3	0	3	75
	4	1	4	150
	5	4	5	22
	6	6		
	7	0		
	8	50*		

* Necessarily approximate

Incubation
Results
on above
Samples:

Insect Count at time of Pulling (2-quart samples taken from belt by hand- fuls every few minutes)	28 samples drawn	8 samples drawn
No live insects found	No live insects found	No live insects found

Incubation Results on above Samples:	Live Count in 28 Samples	Date	Live Count in 8 Samples	Date
drawn	0	Nov. 27	0	Nov. 27
at time of pulling (incubating tempera- ture-80°)	0	Dec. 11	1	Dec. 26
	1	Dec. 26	0	Jan. 8
	0	Jan. 8	0	Jan. 22

Note to newly conditioned bins, prior to fumigation, particularly in Case 2. This treatment justified the small expense incurred many times over by bringing insect damage to an abrupt halt, and saving the cost of several turns to reduce the temperature below the point where insects are active.

Results as secured above are your best evidence of a THOROUGH job. These emergence tests indicate a kill of egg life which means that repeated fumigations are unnecessary.

For MOTH — Sprinkle or spray surfaces of standing grain according to instructions. TREAT BIN BOTTOMS — In running grain into bins suspected of infestation, sprinkle up to a quart into bin bottom with first few bushels.



For RODENTS — Light applications as directed. Rats and mice die in the open. No carcass nuisance. Traces of gas, lingering in burrows and similar retreats, guard against reinestation for a long, long time. Write for new folder on Effective, Economical Grain Fumigation, pictured at right. It's FREE, of course.



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PERSONNEL SPEAKER FOR CHICAGO

OUR November meeting, to be held on the 7th, is to be devoted to that ever-increasing-in-importance subject, "Personnel Relations," reports Chapter President C. J. Alger, Corn Products Refining Company. "We have one of the outstanding authorities of the city to address us, and we will invite all interested managers to join us for the talk and the discussions which will follow.

"The Kansas City Chapter, with their 44 attendance, and the Minneapolis gang, with their 32, may have run a little ahead of our 21 last month, but WATCH OUR SMOKE!"



S. O. S. SHOWING MEMBER- SHIP GAINS

SO far into October five new members have joined the Superintendents' Society, according to reports from President T. C. Manning, Uhlmann Grain Co., North Kansas City, Mo. This compares with one in September, two in August, five in July, nine in June, seven in April and four in March, — the beginning of the Association's fiscal year. Twenty at the quarter mark, twenty-eight at the half, thirty-three to date, with every promise of reaching Membership Number 500 before next year's convention in Toronto, April 1-3.

CHICAGO CHAPTER ELECTS

NEW officers elected at the last Chicago Chapter meeting are:

President—C. J. Alger, Corn Products Refining Company;

1st Vice-President—Fred A. Rech, Arcady Farms Milling Company;

2nd Vice-President—Ralph A. Wilson, Swift & Company, Champaign, Ill.;

Secretary—H. A. Keir, Arcady Farms Milling Company;

Directors—B. P. Kline, Hales & Hunter Company; E. A. Josephson, Albert Schwill & Company; Gilbert P. Lane, Arcady Farms Milling Company; Russell B. Mass, Screw Conveyor Corp., Hammond, Ind.; Paul Naeher, B. F. Gump Company; and Barney Weller, Weller Metal Products Company.

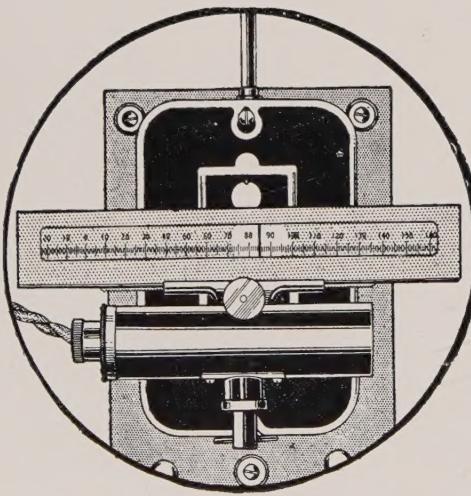
Honorary Directors (Past Chapter Presidents)—William H. Gassler, Rosenbaum Brothers, and Henry P. W. Keir, Norris Grain Company.

Exchequer Committee—Bill Kent, Kent Equipment Company; H. G. Onstad, Wilmette, Ill.



FRED MYERS TO BOARD

W. D. MYERS, Superintendent of the Cleveland Grain Company, Indianapolis, well known figure in Association circles and formerly active in the affairs of the Chicago Chapter of the Society when he was in charge of the Company's plant at this latter location.



Write for our catalogue.

ZELENY THERMOMETER COMPANY

542 South Dearborn Street

Chicago, Illinois

has just been elected to membership in the Indianapolis Board of Trade.

MEMBERSHIP COMMITTEE ACTIVE

At the request of T. C. Manning, President of the Superintendents' Society, we will present monthly the cumulative accomplishments of active members who have been credited with new memberships since March 1st, 1939. To date they are:

- 1-James Mackenzie, Three Rivers (Que.) Grain Elevator Company
- 1-Fred Myers, Cleveland Grain Company, Indianapolis
- 5-T. C. Manning, Uhlmann Grain Company, North Kansas City
- 2-William H. Gassler, Rosenbaum Brothers, Chicago
- 1-Andrew Rankine, Canada Malting Company, Ltd., Montreal
- 1-James Shaw, Canadian Pacific Elevator, Port McNicoll, Ont.
- 1-R. E. Garber, Enid (Okla.) Terminal Elevator Company
- 1-Harry Thoms, Stratton Grain Company, Milwaukee
- 2-Gilbert Lane, Arcady Farms Milling Company, Chicago
- 1-Peyton A. "Jimmy" Kier, Southwestern Milling Division, Standard Milling Company, Kansas City, Kansas
- 1-Estill Everett, Great-Western Elevator Company, Kansas City, Kansas
- 4-William Kamp, Ralston-Purina Company, Kansas City
- 5-C. J. Alger, Corn Products Refining Company, Chicago
- 1-Russell Maas, Screw Conveyor Corporation, Hammond
- 1-William Whiting, Stratton Grain Company, Chicago
- 3-Maynard Losie, Hallet & Carey Company, Minneapolis
- 1-Jack Coughlin, Brooks Elevator Company, Minneapolis
- 1-Emil Buelens, The Glidden Company, Chicago
- 1-Barney Weller, Weller Metal Products Company, Chicago

CHANGES AT MILWAUKEE

A. L. Schaenzer and Bill Kritter are no longer with the Froedtert Grain & Malting Company, Milwaukee, effective with the recent change in management. Al expects to be working soon, according to reports, and Bill is selling insurance.



CHANGE AT CHAMPAIGN

HERB Kampert succeeds Ralph Wilson at Swift & Company, Champaign, Ill.

TO SHOW EXPLOSION MOVIES

THE Kansas City Chapter of the Society of Grain Elevator Superintendents is planning a big "Safety Day" all its own, according to announcement from Peyton A. "Jimmy" Kier, Standard Milling Company, Program Chairman. The large Edison Hall is being arranged by Grover C. Meyer of the Kansas City Power and Light Company and in addition to two National Safety Council films on avoiding accidents and injuries, the film strip of the Calumet Elevator explosion in Chicago last May taken by ace-cameraman Chet Klaus of Zeleny Thermometer Company, Chicago, is also scheduled for its first big preview.

"We hope to have every employee of every grain handling and processing plant in the Greater Kansas City area present," states Mr. Kier, "along with all the bosses — and they're wonderful gentlemen who co-operate with us at every turn, so we expect quite a crowd."

"We had forty-four at our last regular monthly meeting, reports Secretary Claude L. Darbe, Simonds-Shields-Theis Grain Company.



RAETHER TO MINNEAPOLIS POST

E. J. RAETHER, recently Superintendent of Rosenbaum Brothers' Omaha elevator, has accepted a post with the Chamber of Commerce at Minneapolis. Ed is assistant to the Secretary and will have complete charge of the Sampling Department.



Minneapolis members of the Society of Grain Elevator Superintendents are glad to have Ed back in their midst, for he was long associated with them while employed by Otto Bast, president of the Bast Grain Company and the Grain & Feed Dealers National Association.

Mr. Raether was last year's National President of the Grain Elevator Superintendents Society and has been an active participant in Chapter affairs both at Minneapolis and Omaha.

COMMITTEES APPOINTED BY KANSAS CITY CHAPTER

OBVIOUSLY the reason the Kansas City Chapter of the Society of Grain Elevator Superintendents is out in front in the Chapter membership race commencing June first is that all members of this Chapter work together towards a highly commendable goal—100% membership in their area. And to further promote the lasting success of this Chapter, the following committees were appointed by Chapter President W. H. Kamp (Ralston Purina Co.) at the June 13th meeting:

Close attention will be given all programs during the coming year by Chairman Peyton A. Kier (Standard Milling Co.), Wilbur Holte (Simonds-Shields-Theis Grain Co.), Harley Hixson (Continental Grain Co.), and Hugh King (Scoolar-Bishop Grain Co.).

The Operators' Committee consists of Chairman Charles Peterson (Simonds-Shields-Theis Grain Co.), T. C. Manning (General Superintendent, Uhlmann Grain Co.), Roy Harp (Wolcott & Lincoln, Inc.), and F. J. McDermott (Kansas Flour Mills Co.).

A new Safety Committee was also appointed with Claude Darbe (Simonds-Shields-Theis Grain Co.) as Chairman and Estill Everett (Great Western Elevator Co.), H. A. Kimberlin (Midland Flour Milling Co.), and Wm. E. Deegan (Continental Grain Co.) completing this important group.

Kansas City's hustling Membership Committee has Roy L. Browne (Davis-Noland-Merrill Grain Co.) as its Chairman. Capably assisting him are J. L. Brown (Larabee Flour Milling Co.), Harry Madison (Simonds-Shields-Theis Grain Co.), and Clarence Swearingen (Moore-Seaver Grain Co.).



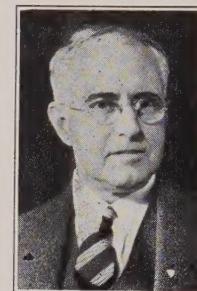
K. C. CHAPTER LEADS

A REPORT from Claude L. Darbe, Simonds-Shields-Theis Grain Company, Secretary of the Kansas City Chapter of the Superintendents' Society, mentions an attendance of 44 at their meeting held on October 17. That gives the K. C. chapter the lead on attendance at the fall meetings thus far held.

Two guest speakers made it an exceptionally interesting evening for those who attended. Claude is intent upon their keeping their leadership among the various chapters.

MARTIN TO DIRECTORATE

E. Martin, Norfolk Elevator Company, Norfolk, Va., long an active director of the Superintendents' Society, was just elected as a director of the Grain & Feed Dealers National Association at their annual convention in Minneapolis.



CHAPTERS VIE FOR CROWN

CONSIDERABLE competition between the various chapters of the Society has doubtless been observed from articles appearing from time to time. So we give the Chapter gains for the first quarter, at the half-way mark and their totals since March 1st:

Chicago Chapter.....	5-8-13
Kansas City Chapter.....	9-2-11
Non-Chapter Team.....	5-0- 5
Minneapolis Chapter.....	0-4- 4
Enid Chapter.....	1-0- 1
Ft. Wm. — Pt. Arthur.....	0-0- 0
Omaha Chapter.....	0-0- 0
Buffalo Chapter.....	0-0- 0

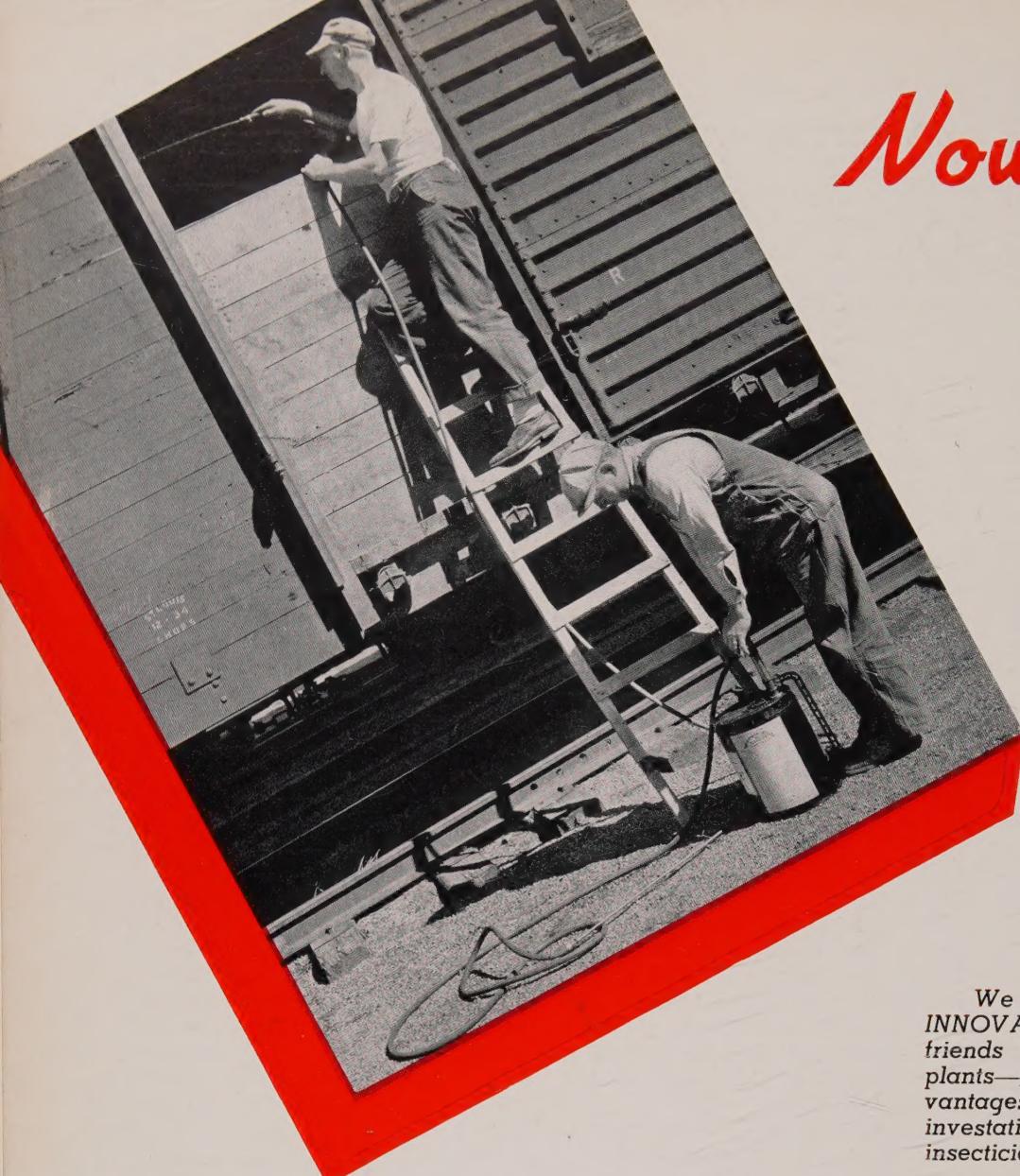
In an adjoining column the records made for the first seven months period are shown. For the past quarter, however, those turning in new memberships were:

4-C. J. Alger, President, Chicago Chapter;	
3-Maynard Losie, Secretary, Minneapolis Chapter;	
2-T. C. Manning, National President, Kansas City;	
1-Russell Maas, Screw Conveyor Corp., Hammond, Ind;	
1-Bill Whiting, Santa Fe Elevator Co., Chicago;	
1-Jack Coughlin, Brooks Elevator Co., Minneapolis;	
1-Emil Buelens, The Glidden Co., Chicago, and	
1-Barney Weller, Weller Metal Products Co., Chicago.	



SUCCEEDS WARD HUTCHISON

EARL Miller succeeds Ward Hutchison at Elevator 'H' and 'I' of the Consolidated Elevator Company, Duluth, Minn.



Now it's...
**SAFE
EASY
AND
SURE**



We dedicate another **SUCCESSFUL INNOVATION** to our host of staunch friends in grain and grain processing plants—Just another indication of the advantages of your working closely on your investigation problems with this reliable insecticide company.

• **NOW** you can **SAFELY** treat your grain in cars—without ANY of the disadvantages you suffered before! **WEEVIL-CIDE** has developed this **NEW-EASY-SAFE** method for you to eliminate the previous **danger** and **disagreeableness** of car treatment. No longer need you worry over the hazard or the offensiveness of this "chore."

• This newly perfected application is not only **SAFE** and **PLEASANT**, but it's also **SIMPLE**, **TIME-SAVING** and **POSITIVE**, just as you can see in the picture above. No more **laborious**, **time-consuming** "hit-or-miss" treatments with this new **WEEVIL-CIDE** equipment.

• Those who have used this **WEEVIL-CIDE** Applicator are as enthusiastic about it as we are—for they find it a **money-saving** way of doing **SAFELY** and **PLEASANTLY** what they've been striving for years to do. Now **WEEVIL-CIDE** does it for **everyone**.

• No more climbing into box cars! Just stand on the ladder and accurately apply your **WEEVIL-CIDE**—or,

after you get accustomed to this improved treatment, stand on the ground and do it.

• And believe-it-or-not but a **BETTER** application is made this way than if you were to have your man **crawl** around on top of the grain with a sprinkling can.

• **Better yet**—because we are buying so many spraying units (and you can make your own if you like)—you can get them from us for only \$9 whereas their retail price is \$10.65. Whether you buy or make your own, we'll gladly send you the simple instructions on its use.

• We dedicate this easy application to your more successful fumigation and hope you'll be as happy about it as all your friends are.

• Try it out—you have everything to gain! Ask us all about it—today. **Be prepared** for all this infested grain and grain products with this **new-safe-easy-fast-sure** treatment. Write . . .

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